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It was proposed by W. R. Wilde, Esq., and seconded by Geo. Petrie, LL. D., and passed unanimously,—

That the Report of the Commission be received by the Academy; and that the thanks of the Academy be given to the members of the Commission.

Sir W. R. Hamilton, LL. D., read a paper on a "New Method of Transformation of certain Diverging Series, with an Application to a Series connected with a celebrated definite Integral, which has important Physical Significations."

The Rev. Professor Haughton made the following communication respecting—

NICOTINE CONSIDERED AS AN ANTIDOTE TO STRYCHNIA.

Having recalled to the recollection of the Academy the experiments he had communicated 29th November, 1856, on the poisoning of frogs by nicotine and strychnia, and the mutual counteraction of those poisons: Professor Haughton said he believed the subject to be an important one, as the action of the antidote depended on its physiological, and not on its chemical properties. After reading that paper, he had, in conjunction with Dr. H. Head, performed some experiments on dogs with those poisons, in January, 1857, but as they had not succeeded in recovering the animals from strychnia poisoning—in consequence of the nicotine acting as a powerful emetic, thus saving the animal's life, merely by emptying its stomach, as any other less dangerous emetic would have done—he had not published the results.

Quite recently, however, Mr. Haughton's experiments had proved to be the means of saving a human life, as was shown by the following case, published in the "Medical Times and Gazette" of the 12th inst.

"*Attempted Suicide with Strychnia; Treatment with Nicotine; Recovery.*—By Thomas O'Reilly, M. D., M. R. C. S., Eng.—On Thursday, September 10, 1857, at 1 o'clock P.M., I was urgently requested by Dr. Byrne to accompany him to see a Mr. Johnson in this city (St. Louis, Missouri, U. S.), who, he was informed, had taken poison. On arrival at his residence we learned the following history to account for his condition:—

"After a three years' cruise as a musician on board an United States frigate, he was paid off in New York, and for the amount purchased drafts on St. Louis, which on his arrival here were found to be worthless. This, together with recent domestic sorrows, so overwhelmed him, that he determined on self-destruction. To accomplish this end, he called on a respectable druggist, and demanded a large dose of poison for a dog. The druggist gave him six grains of strychnia, which he carried into an adjoining beer-house, and, playfully remarking to the bar-tender that he was going on his last spree, mixed the strychnia with beer, and drank it off. Soon repenting this rash act, he mentioned to those present that he had taken poison, and wished they would give him an emetic. One was procured, which vomited him freely, but notwithstanding, violent symptoms set in, and we were called on to see him.

"On entering his room, we found him stretched on his back, his countenance expressive of the most painful suffering and distress, his frame shaken by frequent convulsive spasms, his limbs rigidly extended, and his head slightly bent backwards. His face was of a livid red, and covered with a profuse sweat; his eyes were sunken, and moved with a rapid motion; his mouth was covered with saliva, which he ejected by spasmodic jerks, strongly reminding me of a case of hydrophobia which I had seen some time before. His respiration was quick and difficult, and attended with great pain in the precordial region; skin warm, and covered with a profuse clammy sweat, and he had copious watery discharges from his bowels. His intellect was clear and collected, and his feelings were so morbidly acute that the slightest touch appeared to aggravate his sufferings, and to bring on a spasm. On this account we could not correctly ascertain the state of his pulse.

"Ignorant of any antidote likely to relieve him, and pressed by the urgency of the case, Dr. Byrne, acting on the suggestion of Mr. Haughton's paper (read before a meeting of the Royal Irish Academy, Nov. 29, 1856), took a cigar from a gentleman present, and infused it in half a pint of water.

"One hour and fifteen minutes after he had taken the poison, we gave him the first dose of the tobacco infusion, which he swallowed with difficulty. We continued it in table-spoonful doses at intervals of five minutes, until he had taken half the quantity infused, before we had noticed a favourable change. Then the muscles became relaxed, the spasms less severe, and the intervals between them longer; and so conscious was the patient of relief, that he constantly called for the tobacco juice when he found the paroxysm approaching. This encouraged us to persevere with the infusion, prolonging the intervals between each dose, as the frequency of the spasms abated; until, finally, after twelve hours, they disappeared, leaving him in a state of fearful nervous prostration, from which he recovered in a few days, under a careful tonic treatment.

"In the quantity of infusion administered, we used one ounce and two drachms of dry tobacco leaves, including the cigar—a quantity which no healthy condition of system could stand; but the urgency of this case demanded it, and the result justified it, and at the same time afforded us another illustration of the counteracting influence of poisons, and tended in some way to establish the correctness of the conclusions at which the Rev. Mr. Haughton had arrived by his experiments.

"From a single instance like this, I should be far from recommending nicotine as an antidote; but I trust that the publication of the case may attract the attention of others, who will test the subject with due care, and give the result of their experience to the world.

"*St. Louis, Missouri, United States.*"

Mr. Haughton then made the following statement to the Academy:—The success of the antidote suggested by me for strychnia poisoning in this case induces me to publish some of my experiments of January, 1857, in the hope that the subject may be taken up by some person more competent than myself to do it justice.

No. I.—*Strychnia and Nicotine.*

SMALL CURLY DOG.

	Minutes.
1. Administered one grain of strychnia in a small piece of meat, ...	0
2. Slight spasm and twitching of extensors, ...	15
3. Gave 0·6 grain of nicotine in bread, ...	17
4. Hind-legs rigid, but dog lively, ...	19
5. Fell in tetanic spasms, characteristic of strychnia, . .	21
6. Gave five drops = three grains nicotine, into mouth, . .	22
Death nearly instantaneous, rigidity of muscles quite gone.	
7. Quite dead, bladder voided, ...	26

Pupils greatly dilated.

Post-mortem.

1. Lungs pale and collapsed.
2. Heart greatly engorged.
3. Blood coagulates naturally.
4. Stomach natural.

The meat was scarcely acted upon, although the dog had fasted for twenty-four hours; to all appearance, the greater part ($\frac{9}{10}$ths) of the strychnia remained not acted upon by the juices of the stomach in the cavity of the small piece of meat in which it had been originally placed. It is evident that this dog died of an over-dose of the nicotine, administered as an antidote.

No. II.—*Strychnia alone.*

SMALL BLACK TERRIER.

	Minutes.
1. Administered 1 gr. strychnia, in meat, ...	0
2. Slight twitching of extensors, ...	13
3. Dog staggered on attempting to move, ...	60
4. Slight rigidity of extensors, and partial loss of power of volition, ...	62
5. Panting and restless, ...	65
6. Fell over in tetanic convulsions, ...	71
Violent convulsions over whole body, with marked opisthotonos, particularly in the neck; quick breathing and panting in the intervals of the convulsions; continued in this state for one minute, and recovered.	
7. Fell over again, as before, ...	154
8. Voided bladder, and died, ...	177

Muscles not rigid after death.

Dr. Head and I examined the liver, kidneys, blood, and a small quantity of urine remaining in the bladder, for strychnia, with very doubtful success; in fact, although I am of opinion that we found strychnia in the liver, I should be very sorry to assert it positively, as we found the colour tests very doubtful in the presence of cholesterine, which behaves somewhat like salecine.

No. III.—*Nicotine and Strychnia.*

LARGE WHITE DOG.

	Minutes.
1. Gave 0·6 gr. nicotine, in bread,	0
2. Slight loss of power in hind-legs,	11
3. Gave, additional, 0·4 gr. nicotine,	13
4. Vomited,	23
5. Gave 1 gr. nicotine, in solution,	33
6. Began to turn round, with spasm and twitching of hind-legs,	45
7. Gave 2 grs. strychnia,	55
8. Fell in tetanic convulsion,	89
9. Dead (not very rigid),	101

In this case the animal died of the strychnia administered as an antidote to the nicotine, proving that in this case 2 grs. of strychnia more than counteracted 2 grs. of nicotine.

No. IV.—*Nicotine alone.*

SMALL WHITE DOG.

	Minutes.
1. Gave 0·6 gr. nicotine, in bread,	0
He immediately began to turn round and round; this was followed by loss of power in the limbs, and great dilatation of the pupils.	
2. Likely to recover,	71
3. Gave 1·8 gr. nicotine,	72
4. Quite dead,	74

Immediately on swallowing the last dose of nicotine, he turned round as before, exhibited convulsive twitchings in his hind-legs, uttered a peculiar squeak, and then barked; this was followed by immediate death.

No. V.—*Muriate of Strychnia.*

LARGE WHITE TERRIER BITCH (VICIOUS).

	Minutes.
1. Gave 1 gr. muriate of strychnia, in butter,	0
2. Dead, with tetanic convulsion,	40

No. VI.—*Muriate of Strychnia and Nicotine* (*simultaneous*).

SMALL CURLY BLACK DOG.

	Minutes.
1. Gave 1 gr. muriate of strychnia, 1·5 gr. nicotine, in gelatine capsule, in butter,	0
2. Vomited dose,	10

Recovered, and did not seem injured.

No. VII.—*Strychnia only.*

SKYE TERRIER.

	Minutes.
1. Gave 1¼ gr. muriate of strychnia, in butter,	0
2. Twitching and slight rigidity of extensors,	20
3. First tetanic convulsion,	30
4. Dead; bladder voided,	63

I do not make any remarks on the preceding, although they suggest several points of much interest; I prefer simply adding them to the stock of facts already accumulated on the subject.

Dr. Edward Bewley suggested the possibility that other sedative poisons might act as antidotes also, their action on the nervous system being antagonistic to that of strychnia; and he gave his reasons for making the suggestion by relating an accidental experiment which the late Dr. Boxwell, of Abbeyleix, and he made, some thirty years ago, when strychnia was first introduced into this country. They wished to put a speedy end to the existence of a mangy cur; and, as Dr. Bewley had just read Magendie's "Report upon Strychnia," in which he says that "the sixteenth of a grain will kill the *largest* dog," he determined to make sure work of his *very little* animal, and accordingly administered what was supposed to be half a grain, or more. Either Magendie had made a false statement, or the drug was adulterated; for, at the end of ten minutes, the dog was not dead. He was bent backwards in a bow, and seemed to suffer so much from tetanic convulsions that it was resolved to put him out of pain at once. Dr. Bewley mixed at least half a drachm of medicinal prussic acid of the shops with a little milk, in a saucer, and managed to thrust it under the patient's snout. He lapped the milk with avidity, and in less than a minute discharged his stomach, got upon his legs, ran away, and recovered!

Dr. John Aldridge remarked that Mr. Haughton's proposal involved the introduction of a new principle in toxicological science, hitherto overlooked, namely, the employment of a physiological, not a mere chemical, antidote; the object being, not as heretofore, simply to render the poison inert, but to neutralize the poisoning.

W. R. Wilde, Esq., presented the following donations to the Library and Museum:—